

U.S. Army Materiel Command

MG Deyermund



**Transforming the Tactical
Wheeled Fleet**

NDIA Conference

29 January 2001



AMC-Army READINESS Command... Supporting Every Soldier Every Day

AMC – The Force Behind The Force



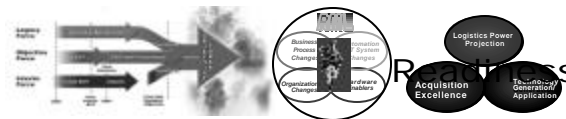
Purpose

To provide an overview of Transforming and maintaining the Tactical Wheeled Vehicle fleet....

Army Transformation

Recapitalization

Modernization



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Your Army Has Changed and is Still Changing

The First Battle is the Logistics Battle

Technology Overmatch is a Must But Logistics Overmatch is Also a Must



A Weak Industry = 's a Weak Army



TRUCKS ARE POWER



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Increased Importance of Wheeled Vehicles

ARMY VISION

- **RESPONSIVE**
- **DEPLOYABLE**
 - 1 BRIGADE IN 96 HOURS.
 - 1 DIVISION IN 120 HOURS.
 - 5 DIVISIONS IN 30 DAYS.
- **AGILE**
- **VERSATILE**
- **LETHAL**
- **SURVIVABLE**
- **SUSTAINABLE**

“Soldiers on point for the Nation transforming this, the most respected Army in the world, into a strategically responsive force that is dominant across the full spectrum of operations.”

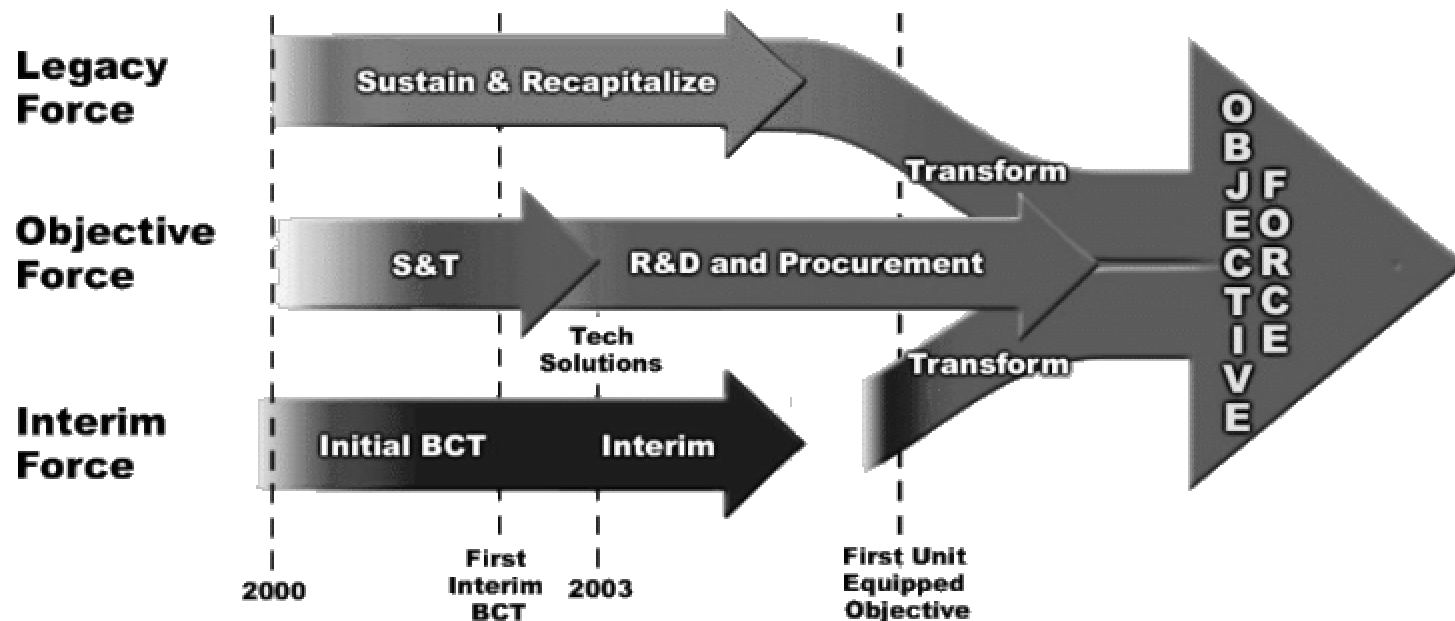
**GEN ERIC K, SHINSEKI,
CSA**

“Nothing happens until something moves”



Transformation Overview

The Army will implement the Vision by **TRANSFORMING *The Army*** as **RAPIDLY** as possible, maintaining focus on warfighting **READINESS** and taking care of our people. Transformation will entail simultaneous **MAINTENANCE OF A TRAINED AND READY FORCE** capable of fighting and winning the Nation's wars, transformation of the operational force, and transformation of the institutional Army, the underpinning for both transformation and warfighting readiness of the operational force.



Modernization

...Including the TWV Fleet

Modernization

The **development and/or procurement of new systems** with improved warfighting capabilities

21 Systems
approved
for Recap

Recapitalization

The **rebuild and selected upgrade of currently fielded systems** to ensure operational readiness and a **zero time/zero mile system**.

Rebuild - Restores system to a **like-new condition** in appearance, performance, and life expectancy; **inserts new technology** to improve reliability and maintainability

Selected Upgrade - **Rebuild** of system and adds warfighting capability **improvements to address capability shortcomings**.

Maintain

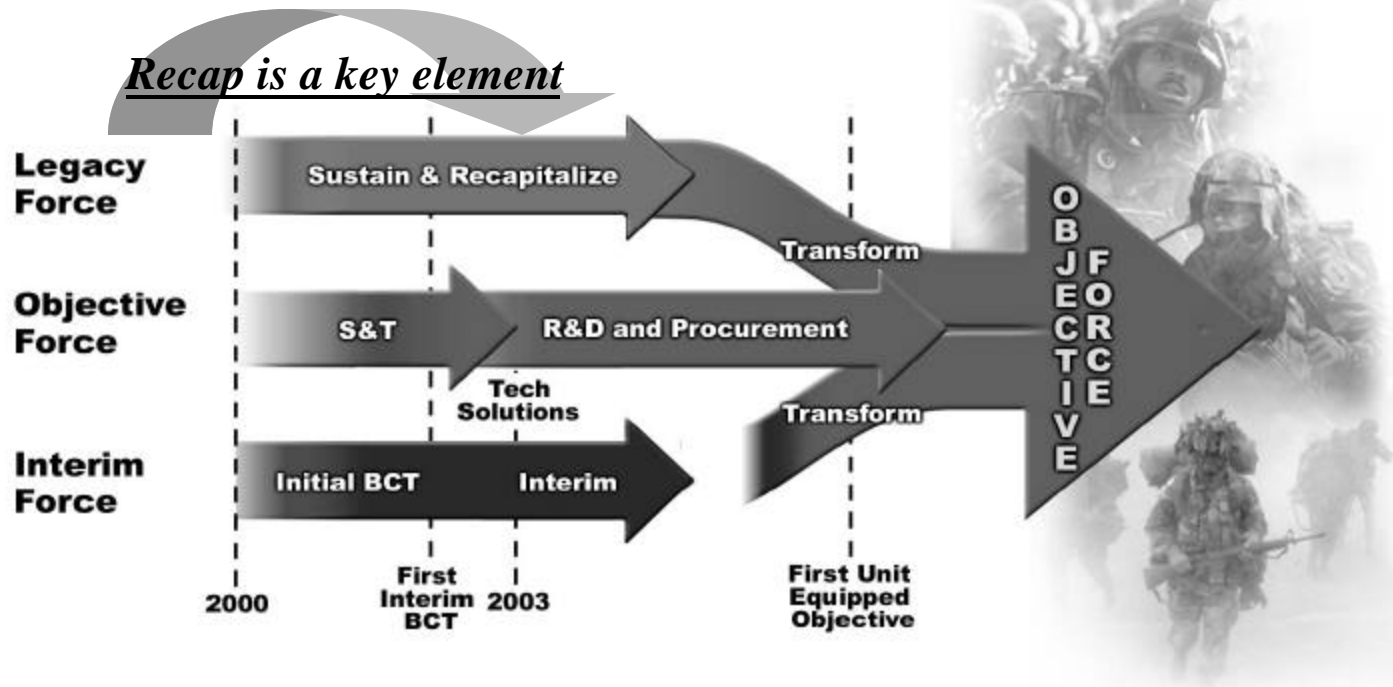
Repair or replacement of end items, parts, assemblies, and subassemblies that wear or break.

Organizational, intermediate, and depot maintenance.

Sustain \$



The Army Transformation



Invest the right amount in the Legacy Force to meet the warfighting requirements as we transition to the Objective Force



Recapitalization

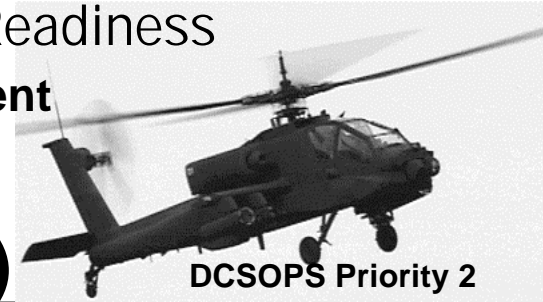
Balancing Modernization with Readiness

A Readiness Enhancement



DCSOPS Priority 1

- Ave Age 11.9
- Density 4327 M1A1s
- M1 models phased out by FY06
- AIM XXI Sust Recap 135 M1A1s/yr
- Upgrade M1 to M1A2 SEP
- Engine; AGT 1500 65% of O&S



DCSOPS Priority 2

- Ave Age 11.2 yrs
- DCSOPS T/F determining rqmt
- Advanced Rotor System
- Drive System

Recap Rqmt (Rebuild)
\$23 B FY02-07

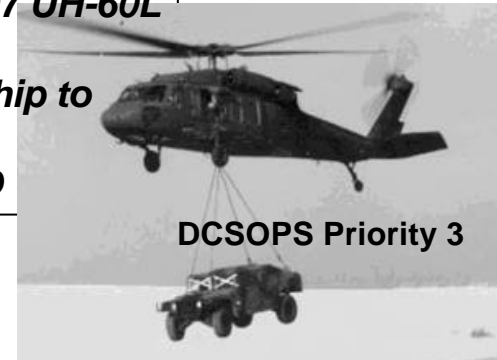
- Ave Age 11.7
- Density 11,517
- ESP program; cargo carriers, fuelers, and wreckers



DCSOPS Priority 12

- Exploring Public/Private partnership between RRAD - Oshkosh

- Ave Age 15.7 yrs-A, 5.7 yrs-L
- Density 906 UH-60A, 497 UH-60L
- UH-60L+ primary recap
- Public/Private partnership to upgrade A to L+
- UH-60A Recap at CCAD



DCSOPS Priority 3

Other Recap Candidates

Chinook, AVLB, M9 ACE, M88, Bradley, MLRS, Patriot, M113, M915



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The Solution: Recapitalization

- **Definition:**

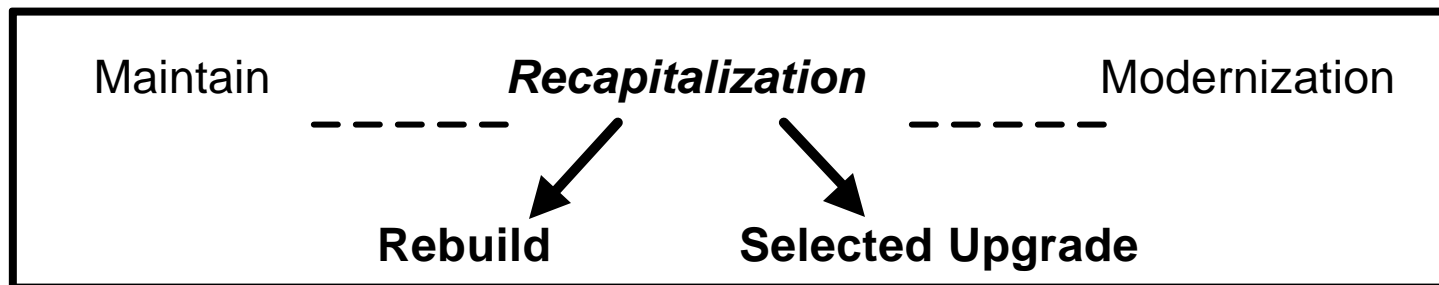
- The rebuild and selected upgrade of currently fielded systems to ensure operational readiness and a zero time/zero mile system.

- **Objectives:**

- Improved System Reliability, Safety, Maintainability, and Efficiency
- Extended service life
- Reduced Operating and Support (O&S) Cost
- Enhanced Capability

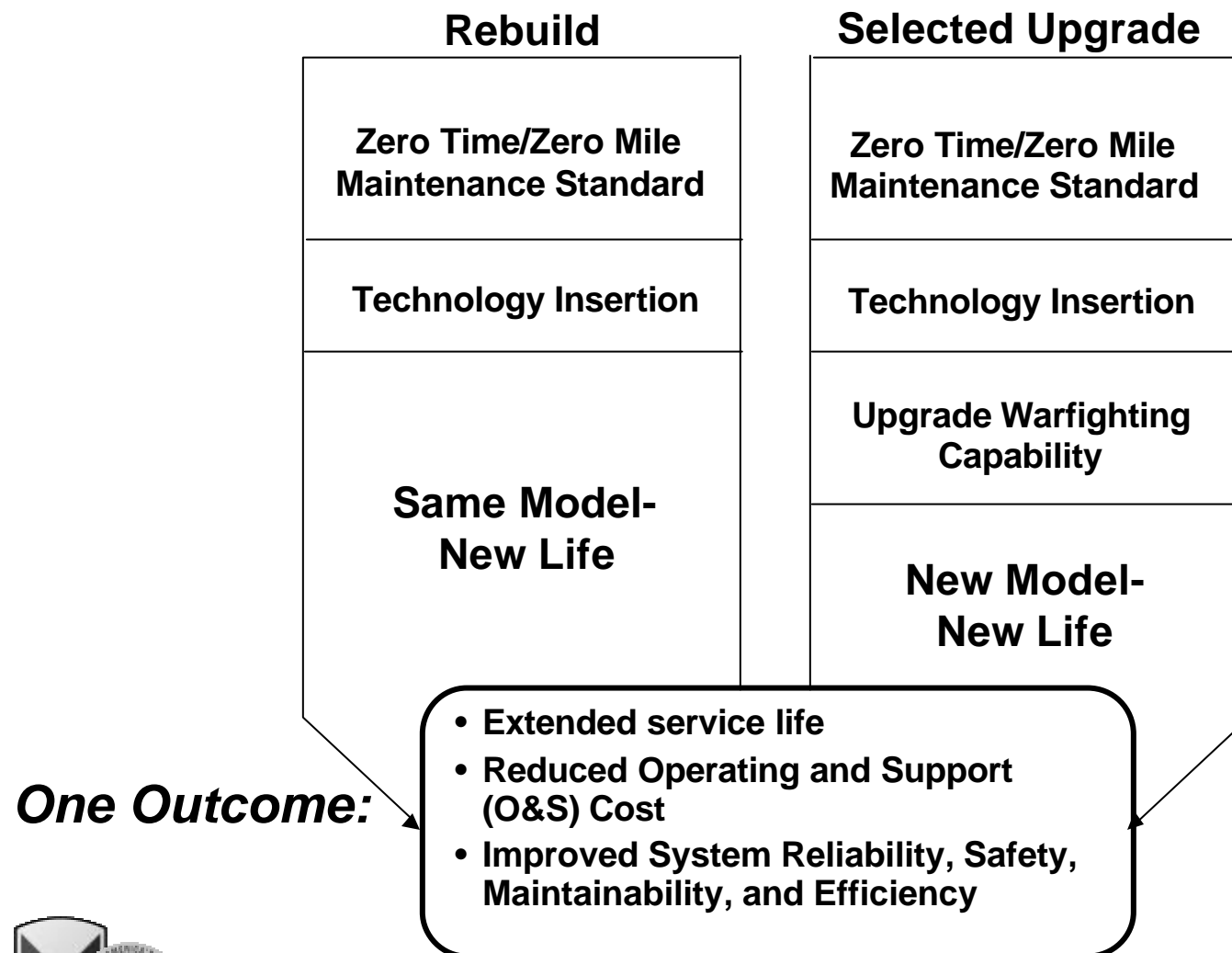
Reduce Logistics Footprint

- Technical/Engineering Data ↔ Components ↔ Systems
- OSD Half-Life Metric is the measure of success



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Recapitalization...Two Paths

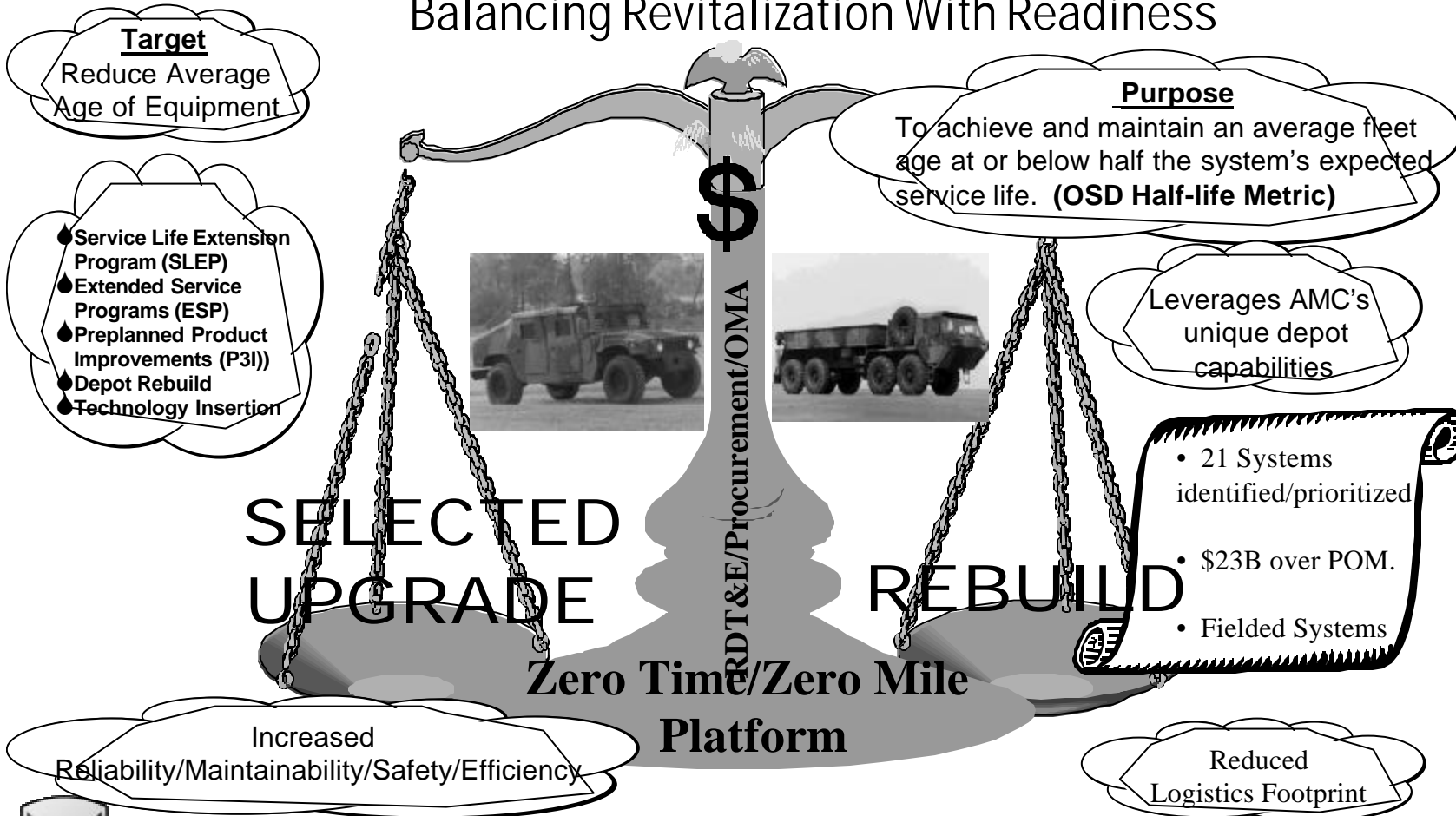


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Recapitalization

Linked to
Joint Theater Log Mgmt Tenet--
“Optimize Log Support”

Balancing Revitalization With Readiness



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Army Recapitalization Program

Policy

“Recapitalization of fielded systems is central to both *readiness* and the Army’s transformation. Implementing recapitalization . . . will provide the *warfighter* with a *more capable, reliable, and economically sustainable weapon system*. It is essential that we share a common understanding of program objectives and *synchronize our modernization and sustainment efforts . . .*”

(20 March Memo by ASA(ALT) and VCSA)

Execution Responsibilities

“The *Army Materiel Command*, in full partnership with *Program Executive Officers and the MACOMs*, will take the lead in establishing processes and procedures for *initiating and executing recapitalization*.”

Oversight Responsibilities

“The *Vice Chief of Staff and Assistant Secretary of the Army for Acquisition, Logistics, and Technology* will jointly chair an *Army level review of the recapitalization effort annually*.”

(2 Aug Memo signed by ASA(ALT) and VCSA)



AMC Recapitalization Memo

20 Nov 2000

Implements 2 August 2000

memo signed by ASAALT and VCSA

☛ **Management Structure**

- ☛ Board of Directors
- ☛ General Officer Working Group
- ☛ Council of Colonels
- ☛ HQ AMC RECAP Team

**“to ensure the success...
and synchronization,...the
Recapitalization
Management Structure has
been established.”**

Recapitalization Campaign Plan

- ☛ Synchronize with Army Transformation

**“a living document
display ... events and
milestones ...”**

- ☛ Requests support from DA Staff & MACOMs
- ☛ Recap vital to maintaining readiness at minimum O&S costs

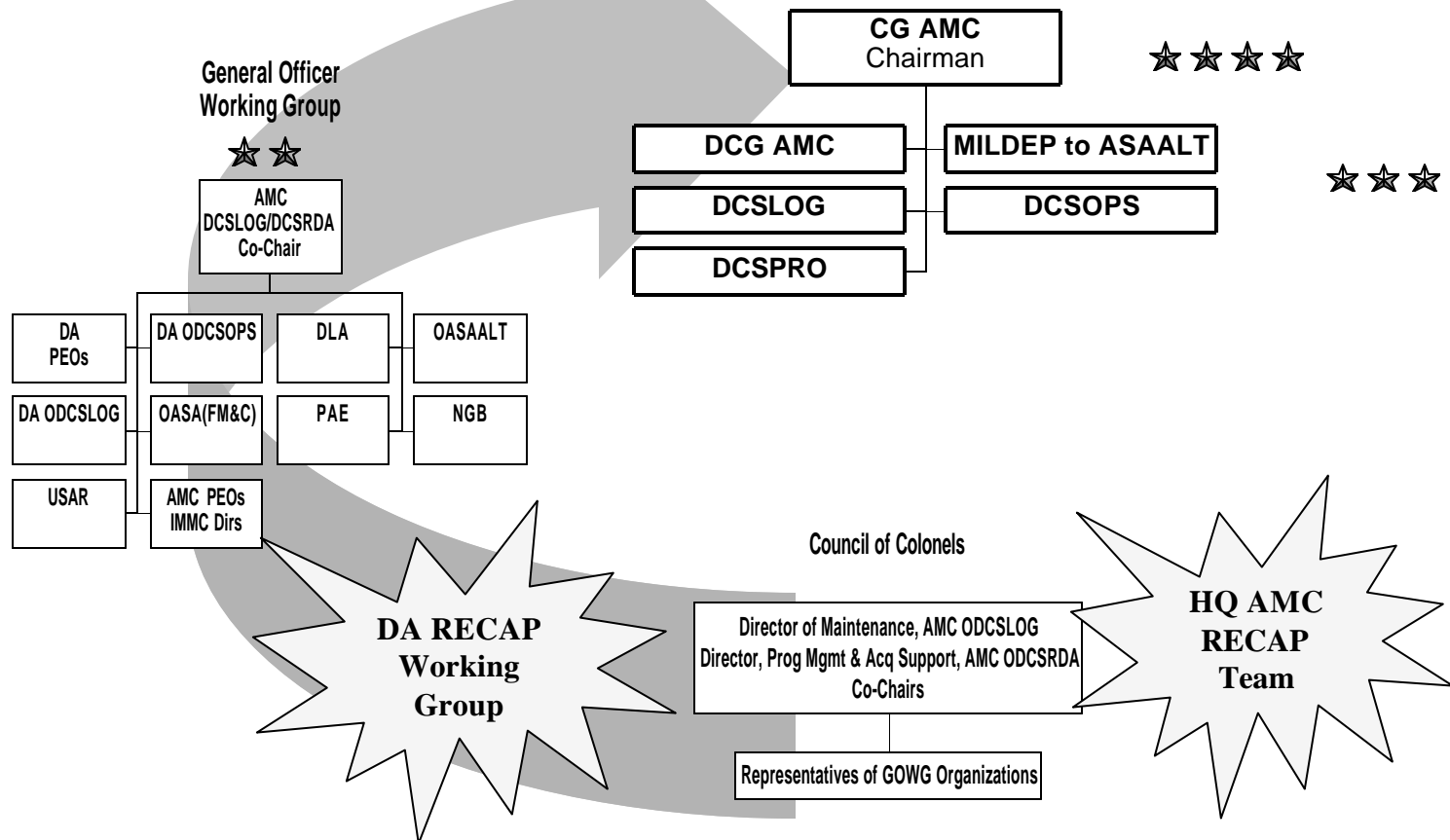


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Recapitalization Management Structure

Implementation and Operational Integration Structure

Board of Directors



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Recapitalization Campaign Plan

- A Phased Approach -

Plan
continues

Oct 00 (FY01)	Oct 01 (FY02)	Oct 02 (FY03)	Oct 03 (FY04)
<u>MILESTONE 0</u> <u>CONCEPT</u> ✓ Funding SSTS \$58M ✓ Development NMWR Stds ✓ Establish Recap Mgmt Structure ✓ Develop Cost Benefit Analyses <u>TASKS</u> ✓ Identify Bill-payer SSTS ✓ Identify seed assets - FSP ✓ Establish Recap Management Structure ✓ Action Meeting - Component Stds ✓ Implementation Memo Released ➔ <u>Execution Plans</u> ✓ LRIP Begins ✓ Negotiate Partnership ✓ General Officer Working Group (GOWG) Established ✓ Solicit Congressional support for increase funding <u>END Result</u> ➔ <u>Initial CBA Results</u> ➔ <u>Report out to BOD</u> ➔ <u>Annual update to ASA (ALT) and VCSA</u>	<u>MILESTONE 1</u> <u>CONCEPT</u> ✓ Review Policy <u>TASKS</u> ✓ POM Working Group Meet ✓ Develop Recap Web site ✓ Identify seed assets ✓ Identify claimants ✓ FSP Begins ✓ Determine half-life quantity ✓ Define zero time/zero mile standard for each new system ✓ Integrate Requirements Determination Process ✓ Council of Colonels ✓ GOWG <u>END Result</u> ➔ <u>Final CBA Results</u> ✓ Revised Recap Listing ✓ Increased Funding of Recap Items ➔ <u>Report out to BOD</u> ➔ <u>Annual update to ASA (ALT) and VCSA</u>	<u>MILESTONE 2</u> <u>CONCEPT</u> ✓ FSP Continues <u>TASKS</u> ✓ Modernize Depot- CIP ✓ MCA Update ✓ Update Recap List- POM ✓ Review Workload Allocation ✓ Identify seed assets ✓ Identify claimants ✓ Contract Awards ✓ Council of Colonels ✓ GOWG <u>END Result</u> ✓ <u>Report out to BOD</u> ✓ Fielding ➔ <u>Annual update to ASA (ALT) and VCSA</u>	<u>MILESTONE 3</u> <u>CONCEPT</u> ✓ FSP Continues <u>TASKS</u> ✓ Update Recap List --POM ✓ Identify seed assets ✓ Identify claimants ✓ Contract awards ✓ Council of Colonels ✓ GOWG <u>END Result</u> ✓ <u>Report out to BOD</u> ✓ Fielding ➔ <u>Annual update to ASA (ALT) and VCSA</u>

Event Driven!

- SSTS up-front funding
- Recap Funding - PA/OMA
- Seed assets
- Parts support
- Production/Fielding Schedules

Recap PMs

1.	ABRAMS	COL James Moran	PEO
2.	APACHE	COL Howard T. Bramblett	PEO
3.	BLACKHAWK	LTC(P) William Lake	AMC
4.	CHINOOK	James Caudle	AMC
5.	M88A1/A2	COL M. Asada	AMC
6.	AVLB	COL M. Asada	AMC
7.	M9 ACE	COL M. Asada	AMC
8.	BRADLEY	COL Paul S. Izzo	PEO
9.	MLRS	COL Craig Naudain	PEO
10.	PATRIOT	COL Jed Sheehan	AMC
11.	M113 A3	COL M. Asada	AMC
12.	HEMTT	James Sutton	AMC
13.	SEE	Sharon Bednarik	AMC
14.	M915	COL Samuel Cannon	AMC
15.	Firefinder	LTC Jesse Barber	AMC
16.	ELECTRONIC SHOP	Larry Langan	AMC
17.	FAASV	LTC 'Joe' Stenkamp	AMC
18.	DOZER	COL Samuel Cannon	AMC
19.	SUSV (ALL)	Ed Klisz	AMC
20.	SCRAPER	COL Samuel Cannon	AMC
21.	HMMWV (ALL)	Nancy Moulton	AMC

Systems listed in priority sequence by DA DCSOPS.



Depot-Industry Partnerships

Existing / Potential Partnerships

SYSTEM	OEM*	DEPOT
Abrams	GDLS	Anniston
Apache	Boeing	Corpus Christi
Blackhawk	Sikorsky	Corpus Christi
Chinook	Boeing	Corpus Christi
M88A1/A2	UDLP	Anniston
AVLB	GDLS	Anniston
M9 ACE	UDLP	Anniston
Bradley	UDLP	Red River
MLRS	Lockheed-UDLP	Red River
Patriot	Raytheon	Letterkenny
M113A3	UDLP	Anniston
HEMTT	Oshkosh	Red River
SEE	Daimler-Benz	Red River
M915	Freightliner	N/A
Firefinder	Raytheon Systems	Tobyhanna
Electronic Shop	N/A	Tobyhanna
FAASV	UDLP	Anniston
Dozer	Caterpillar	N/A
SUSV	Haaglungs	Red River
Scraper	Caterpillar	N/A
HMMWV	AM General	Red River

*** Teaming not
restricted to OEM;
Army seeks best
value**



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Slide 18

Transition to National Maintenance Program

Where we were . . .

Integrated Sustainment Maintenance

- ✓ regional requirements
- ✓ repair to IRON (applicable TM)
- ✓ repair and return to user

Where we are . . .

National Maintenance Management

- ✓ requirements based on national need
- ✓ repair to IRON (applicable TM)
- ✓ repair and return to AWCF supply

NMM Status

- ★ Installations implemented NMM procedures 1 Oct 00.
- ★ Workload Plans
 - Executing FY 01 Plan
 - Refining FY 02 Plan
 - Coordinating FY 03 Plan
- ★ First National Production Review is to be conducted 29 Jan 01.
- ★ Workload developed in conjunction with MACOMs and AMC MSCs.

Where we are going . . .

National Maintenance Program

- ✓ same as NMM plus . . .
- ✓ repair to overhaul standard
- ✓ source of repair certified

NMP adds
2 new
requirements

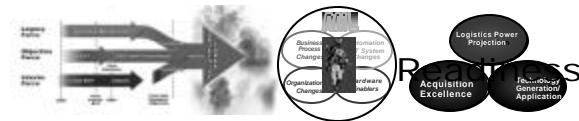
NMP Status

- ★ Requirement for developing overhaul standards has been identified
- ★ National Maintenance Work Requirements are being developed. Priority given to components supporting RECAP systems
- ★ Working strategy to synchronize NMP component effort with RECAP end items



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National Maintenance Program



**AMC:
The Army's
Executor**

Field Level Mgmt

- Consists of
 - Unit
 - Direct Support
 - General Support



**Repair and Return
to User**

National Level Mgmt

- Consists of
 - Organic Depots
 - Industrial Base
 - Qualified Below-Depot Activities
- Repair and Return to
Supply System**



**Field Level
Support
Near-term
Readiness**

Supporting Policies

SRA Policy
AIT
Serial Numbering

Policy Highlights - AR 750-1

- Establishes CG USAMC as the National Maintenance Manager (NMM)
- Establishes Overhaul as National Maintenance Repair Standard
- Establishes a Network of Maintenance Providers to Support NMP
- Requires the NMM to workload Army Maintenance Infrastructure based National Need

Overhaul
Maintenance that restores equipment to a completely serviceable condition with a measurable (expected) life.

**AMC Manager for
National Maintenance
Single Standard for
Maintenance**

**Provides Predictable
Reliability and Readiness**

**Increases Mean Time Between Failure
(MTBF) Rates**

Rightsizes National Inventory

**Rightsizes Maintenance
Capacity**



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Investment Strategy

In order to implement the modernization strategy in support of Transformation, the Army prioritizes its investment of limited resources over time

Legacy	Interim	Objective
Investment in existing (legacy) equipment is limited to those critical modernization and recapitalization action needed to preserve readiness and maintain combat overmatch, particularly in the Counter-Attack Corps	Interim Force investments minimized to those necessary to field the force, primarily the IAV yet fill the critical capabilities gap that exist today	Objective Force investments represent the majority of expenditures (64%). These investments include the science and technology (S&T) and research and development (R&D) funding necessary to achieve the Objective Force as well as other investments in existing equipment that will remain as part of that force 96% of S&T funds linked to Objective Force

The number one priority for the Army's investments is development of the Objective Force



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Impact of Recapitalization Funding on System Half-life

- Selected and prioritized 21 Recapitalization systems
- Only two systems (M915 and UH-60) improve their average age at current funding levels
- At least 11 of these systems have the potential to be part of the Objective Force
- Required program will improve average age for most systems

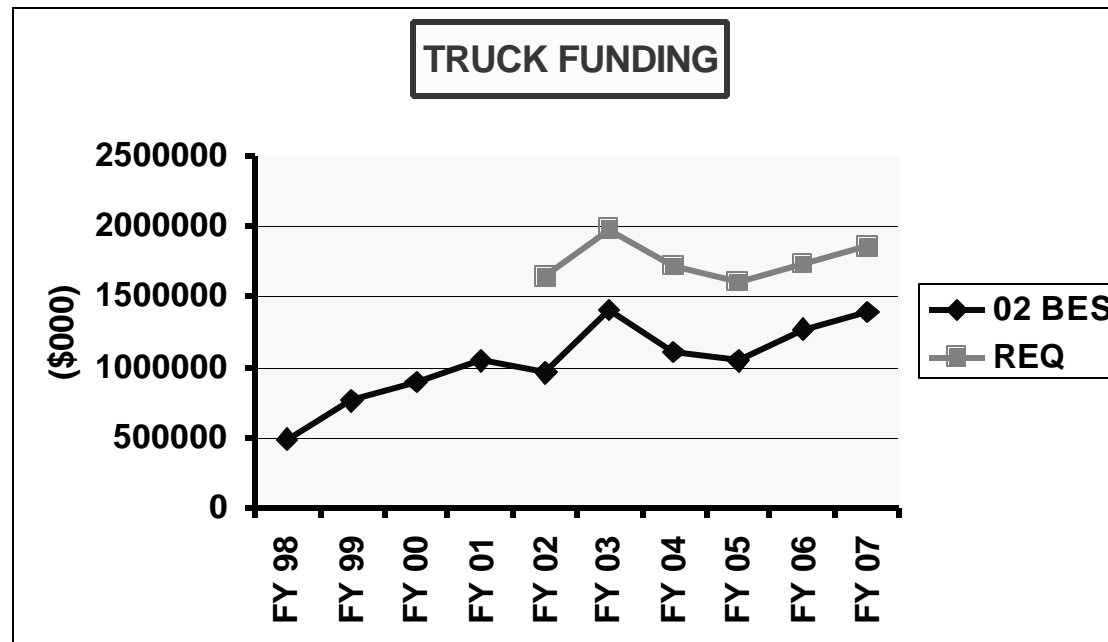
System	Objective Force Potential	Avg Age Current	Avg Age - 2010 Curr Funding	Avg Age - 2010 Required
M1		10.5	14.4	13.1
AH-64	X	11.6	21.6	12.6
UH-60	X	14.6	12.7	11.9
CH-47	X	12.3	12.6	10.2
AVLB		24.0	31.6	13.1
M9 ACE		11.4	15.6	10.7
M88		19.1	26.6	19.7
M2/M3		9.3	15.2	13.1
MLRS		11.4	10.1	10.2
Patriot	X	13.2	8.9	6.8
M113		13.0	20.9	14.9
HEMTT	X	12.5	12.8	11.7
M915	X	16.2	12.8	10.0
TPQ-36	X	14.8	16.2	14.0
HMMWV	X	9.6	19.6	6.6
Electronic Shop	X	18.0	22.0	10.0
M992 FAASV		11.4	21.4	11.7
M973A1 SUSV		10.0	8.0	4.4
D-7 Dozer	X	18.7	28.7	25.9
SEE		10.5	20.5	10.0
Scraper	X	13.0	23.0	15.0

HMMWV, SUSV & MLRS
Service life = 15 years;
all others = 20 years



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Tactical Wheeled Vehicle Funding



FY 02-07 REQUIRES AVERAGE \$1.8B PER YEAR

FY 02-07 FUNDED AVERAGE \$1.2B PER YEAR

REQUIRES ADDITIONAL \$.6B PER YEAR





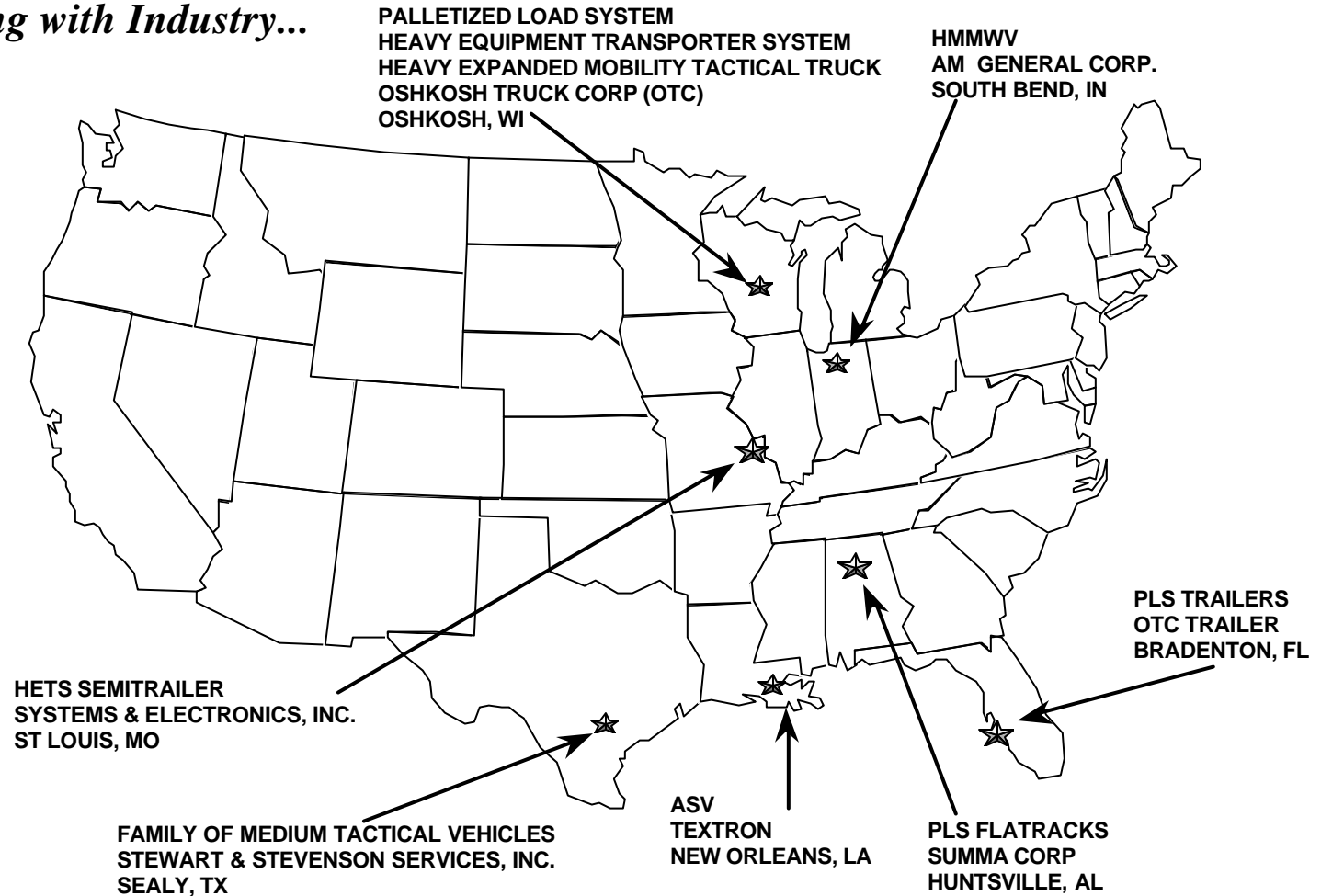
The Fleet



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PRIMARY VEHICLE PRODUCTION LOCATIONS

Partnering with Industry...



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LIGHT FLEET MOD PATH

VEHICLES

<u>1960-83</u>	<u>1984-2001</u>	<u>2002-2014</u>	<u>2002-2015</u>
M151 “JEEP”	CUCV	HMMWV	HMMWV
GAMA GOAT	HMMWV	HMMWV	HMMWV
M880		RECAP	COMBATT*
MULE			

MISSIONS

C4I
CARGO
TROOP TRANSPORT
WEAPONS PLATFORM

UP ARMOR

* COMMERCIAL BASED
TACTICAL TRUCK.



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MEDIUM FLEET MOD PATH

1960-1994

2-1/2 TON

MISSIONS:

CARGO
TANKER
VAN

MISSIONS:

DUMP
TRACTOR

1994-1999

LMTV

2-1/2 TON ESP

2000-2015

LMTV

MISSIONS:

CARGO
VAN



1960-1980

5 TON

MISSIONS:

CARGO
TRACTOR
WRECKER
VAN
DUMP

1983-84

M939

1985-86

M939A1

1988-1996

M939A2

MISSIONS:

TANKER
WEAPONS

1996-2015

MTV



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HEAVY TACTICAL DESIGN FLEET

MOD PATH

1965-1985

**GOER
HI-MOBILITY
5 TON
M911/M747**

1983-2008

HEMTT

1994-2015

**PLS
HETS
HEMTT
RECAP**

2008-2015

**HEMTT II
HEMTT ESP
PLS
HETS**

MISSIONS:

**CARGO
TANKER
WRECKER
TANK TRANSPORT**

TRACTOR

NEW USES PLS:

**FUEL MODULE
ENGINEER
MODULES
FORWARD REPAIR
SYSTEM - HEAVY**



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HEAVY FLEET COMMERCIAL DESIGN

MOD PATH

1978-1980

M915

M916

1985

M915A1

1992-1994

M915A2

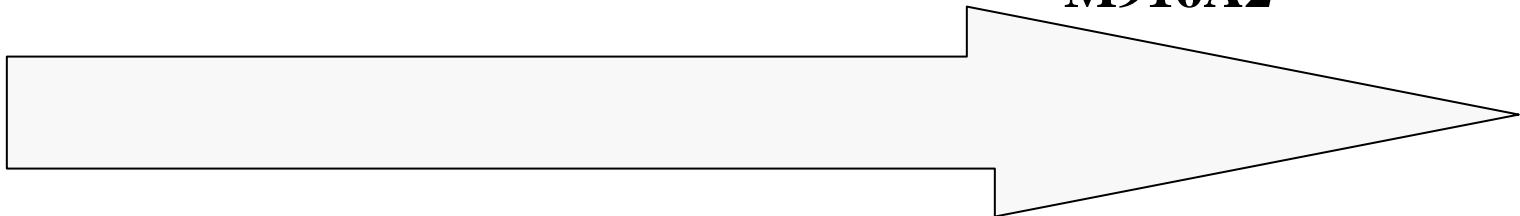
M916A1

1998-2015

M915A3/5

M915A4 (ESP)

M916A2



MISSIONS:

PULL FUEL TRAILERS

CARGO TRAILERS

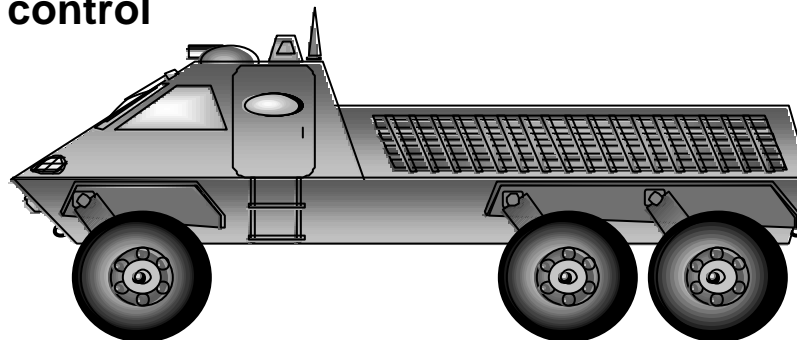
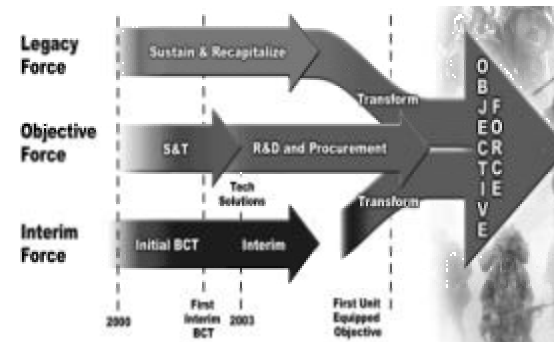
ENGINEER EQUIPMENT TRAILERS



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Future Tactical Trucks

- C130 transportability
- Increased survivability
- 10 - 20T payload
- Reduced curb weight
- Improved mobility
- Improved fuel economy
- Improved command and control
- Unit Price constraint
- 2 man crew
- Non-lethal capabilities
- Suppress enemy troops
- ISO container



Where we are headed.....

Exploit the Tech Base...DOD and Industry



- Robotics



-Advanced battery



-Advanced crew station

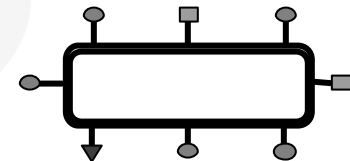
- Automated maintenance
- Prognostics
- Embedded training



-Advanced suspension



-Fuel efficiency
-Hybrid Electric

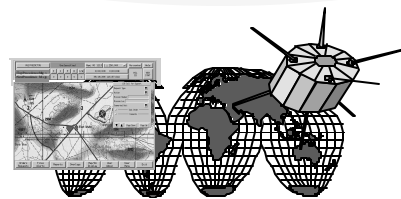


-High speed data bus

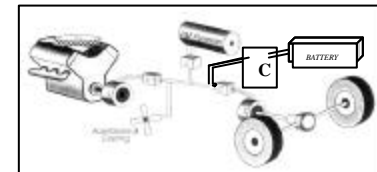


-Improved deployability

- Improved survivability
 - Modular armor packages
 - Cab mine protection
 - NBC protection
 - Defensive Aids Suite



-MTS
-RF Tags
-GPS



-Advanced propulsion system



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Conclusion

- **Tactical Wheeled Vehicles key to Objective Force, Contingency Operations.**

- **Future programs...Potential to reduce the Log Footprint in the Battlespace**

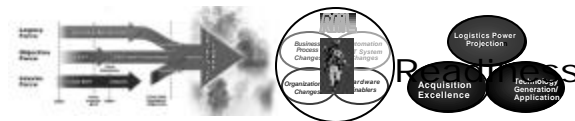
- **Strategy -- Support Army Transition to Objective Force**

 - Sustain the Interim Force**

 - Recapitalize the Legacy Systems**

- **Army Can't do it alone --AMC / Industry Partnership**

***TRUCKS
ARE
POWER***



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